PCT10

RAW SEQUENCE LISTING
PATENT APPLICATION: US/10/018,105

DATE: 01/09/2002
TIME: 13:56:27

Input Set : A:\10182015999.txt

Output Set: N:\CRF3\01082002\J018105.raw

p.5

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4 <110> APPLICANT: ROEMER, Terry
             BUSSEY, Howard
              DAVISON, John
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       <120> TITLE OF INVENTION: IDENTIFICATION OF CANDIDA ALBICANS ESSENTIAL FUNGAL
              SPECIFIC GENES AND USE THEREOF IN ANTIFUNGAL DRUG
              DISCOVERY
     10
     12 <130> FILE REFERENCE: 10182-015
C--> 14 <140> CURRENT APPLICATION NUMBER: US/10/018,105
                                                                    ENTERED
C--> 15 <141> CURRENT FILING DATE: 2001-11-05
     17 <150> PRIOR APPLICATION NUMBER: PCT/CA00/00533
     18 <151> PRIOR FILING DATE: 2000-05-05
     20 <150> PRIOR APPLICATION NUMBER: 60/132,878
     21 <151> PRIOR FILING DATE: 1999-05-05
     23 <160> NUMBER OF SEQ ID NOS: 6
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181	ctg Leu	act	aaa -	gat	Dh.	Ton	Tria	Tla	Tou	mur	Dro	Agn	Δla	Lvs	Ala	Glv	
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	Lys	Leu		Phe	vaı	тrр	Arg	Tyr	116	PIO.	ьeu	СТУ	235	цуз	шу	Dou	
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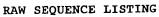
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297 6555 6660 660 675 680 298 Lys Ile Asp Lys Glu Leu Ile Asn Asn Ser Ile Ala Phe Lys Lys Leu 675 301 gat aaa gcg cag ggt gtg tct gga aca ttt tgg cta gtg tcg gat ttt 4875 302 Asp Lys Ala Gln Gly Val Ser Gly Thr Phe Trp Leu Val Ser Asp Phe 700 303 690 695 700 305 acc aag tca gca att att act caa ttg ata gat ttg tta ttg ctt ctc 306 Thr Lys Ser Ala Ile Ile Thr Gln Leu Ile Asp Leu Leu Leu Leu Leu Leu 196 Asp 1970 307 705 710 715 309 aaa aag aaa gca att cag aat aaga att att act acg ggg gat aca ggt 310 Lys Lys Lys Ala Ile Gln Ile Arg Ile Ile Asn Thr Gly Asp Thr Asp 711 309 aaa aag aaa gca att gaa aca aca aga ttt aat act ggg gat aca gat 311 Val Phe Gly Lys Leu Lys Thr Lys Phe Lys Leu Thr Ala Leu Thr Asn 725 730 313 gtt ttt gga aaa ttg aaa aca aca att ttg aaa aca aca cc gcc tta aca aat 314 Val Phe Gly Lys Leu Lys Thr Lys Phe Lys Lys Lys Lys Asp Ala Ser 760 318 Gly Gln Ile Asp Glu Ile Ile Glu Ile Leu Lys Lys Ser Asn Ala Ser 760 321 agt gca aat at gat gaa ttt gaa aaa aca aca act ct aca gat tta 32 Ser Ala Asn Asn Asn Asp Glu Leu Lys Lys Met Leu Glu Thr Lys Gln Leu 322 Ser Ala Asn Asn Asp Glu Leu Lys Lys Met Leu Glu Thr Lys Gln Leu 323 770 785 790 325 cct gct cat cac tct ttt ttg cta ttc aca ttc aga tta tta tag agt ga att tt gga act ttg gag act att tt ga ttg gal 324 Asp Gly Asn Phe Gly Tyr Glu Glu Leu Asp Gln Ile Ile Glu Phe Glu 331 800 805 810 333 gat gag ttt agg tcg ag ag ag ttg ag ttg gat ttg gat cag gca tt ccg 334 Val Ser Gln Arg Leu Asp Asn Met Asp Trp Phe Asp Leu Asp Asn Met Asp Trp Phe Asp Leu Asp Asn Met Asp Trp Phe Asp Leu Val Thr Ser Ile Val Thr 343 835 815 820 835 815 830 805 815 830 835 81					_												670	
298 Lys Ile Asp Lys Glu Leu Ile Asn Asn Ser Ile Ala Pine Lys Lys Leu 299 675 680 680 680 680 680 680 680 680 680 680	295	655					660					665					670 ata	1927
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306	303				690												-+-	1000
307	305	acc	aag	tca	gca	ata	att	act	caa	ttg	ata	gat	ttg	tta	ttg	CLL	Tau	4923
309 aaa aag aaa gca att cag ata aga att att aat act ggg gat aca gat 4971 310 Lys Lys Lys Ala IIe Gln Ile Arg Ile IIe Asn Thr Gly Asp Thr Asp 730 313 gtt ttt gga aaa ttg aaa aca aag ttt aaa tta acc gcc tta aca aat 5019 314 Val Phe Gly Lys Leu Lys Thr Lys Phe Lys Leu Thr Ala Leu Thr Asn 750 317 gga caa att gat gaa att att gag att ttg aaa aca aca tcc acc gcc tta 317 gga caa att gat gaa att att gag att ttg aaa aca aca ccc acc gcc tta 318 Gly Gln Ile Asp Glu Ile Ile Glu Ile Leu Lys Lys Ser Asn Ala Ser 765 318 Gly Gln Ile Asp Glu Ile Ile Glu Ile Leu Lys Lys Ser Asn Ala Ser 765 319 755 320 gat gca aat act gat gaa ttg aca aca act gcc tcc 322 Ser Ala Asn Asn Asp Glu Leu Lys Lys Met Leu Glu Thr Lys Gln Leu 780 322 Ser Ala Asn Asn Asp Glu Leu Lys Lys Met Leu Glu Thr Lys Gln Leu 780 323 77 785 329 gat gga act ttt gga tcc gag gaa ttg gat caa att att aga ttg 326 Pro Ala His His Ser Phe Leu Leu Phe Asn Ser Arg Tyr Phe Arg Leu 792 330 Asp Gly Asn Phe Gly Tyr Glu Glu Leu Asp Gln Ile Ile Glu Phe Glu 331 800 330 Asp Gly Asn Phe Gly Tyr Glu Glu Leu Asp Gln Ile Ile Glu Phe Glu 331 800 331 gtt ct caa aga ttg acc tta atc ccg gac atc atg gag gca tat ccg 325 334 Val Ser Gln Arg Leu Asn Leu Ile Pro Asp Ile Met Glu Ala Tyr Pro 335 815 337 gat gag ttt agg tca ag aca ggt gat ttt gat ttt act ccg gac atc atg gag gca tat ccg 337 340 Asp Glu Phe Arg Ser Lys Lys Val Ser Asp Phe Asn Leu Val Leu Ser 845 341 gga tta gac act atg gac tgg ttt gat ttg gtg act tcc ata gtg acc 336 342 Gly Leu Asp Asn Met Asp Trp Phe Asp Leu Val Thr Ser Ile Val Thr 865 343 Asp Glu Phe Arg Ser Lys Lys Val Ser Asp Phe Asn Leu Val Thr Ser Ile Val Thr 867 341 gga tta gac aca tat gac ca ttg gat ttt caa ac ttg gat gat ttg acc acc gtg acc acc acc g	306	Thr	Lys	Ser	Ala	Ile	Ile	Thr	Gln	Leu	Ile	Asp	Leu	Leu	Leu	ьеu	Leu	
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314 Val Phe Gly Lys Leu Lys Thr Lys Phe Lys Leu Thr Ala Leu Thr Ala 15	311		720														+	5010
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317 gga caa att gat gat att att gag att ttg aaa aaa	314	Val	Phe	Gly	Lys	Leu		Thr	Lys	Phe	Lys	Leu	Thr	Ата	ьeu	TILL	750	
318 Gly Gln Ile Asp Glu Ile Ile Glu Ile Leu Lys Lys Ser Ash Ala Ser 765 312 agt gca aat aat gat gaa ttg aaa aaa atg ctt gag act aag caa tta 322 Ser Ala Asn Asn Asp Glu Leu Lys Lys Met Leu Glu Thr Lys Gln Leu 770 323 770 775 7765 324 agt gca aat aat gat gaa ttg caa tta ttt aga ttg 5113 325 cct gct cat cac tct ttt ttg cta ttc aac tct aga tat ttt aga ttg 5163 326 Pro Ala His His Ser Phe Leu Leu Phe Asn Ser Arg Tyr Phe Arg Leu 795 329 gat gga aat ttt gga tac gag attg gat caa att att gag ttg gat sag gag ttg gat caa att at at agag ttt gaa 330 Asp Gly Asn Phe Gly Tyr Glu Glu Leu Asp Gln Ile Ile Glu Phe Glu 331 800 805 805 805 333 gta tct caa aga ttg aac tta atc ccg gac atc atg gag gca tac cg 334 Val Ser Gln Arg Leu Asn Leu Ile Pro Asp Ile Met Glu Ala Tyr Pro 825 337 gat gag ttt agg tcg aag aag gta agt gat ttt aat ctg gtt ttg tct 337 gat gag ttt agg tcg aag aag gta agt ggt ttt gat ttg gtg act tcc at gag gac atc atg gag cat ttg 5307 345 aaa tca ttc cat gtc gac gaa aaa agg ttt att gt gtg act tcc at gtg gac aa agg tt att gat ttg gtg act tcc at gtg gac aa agg tt agg gtt att att gtg gt act tcc at gtg gac aa agg tt agg gat ta ttg gtg act tcc at gtg gac aa agg tt agg gat tt att gtg gt act tcc at gtg gac aa agg tt agg gtt att att gtg gt act tcc at gtg gac aa agg gt agg gat tt att gtg gt act tcc at gtg gac aa agg gt agg gat tt att gtg gt act tcc at gtg gac aa agg gt agg gt tt att gtg gt act tcc at gtg gac aa agg gt agg gt tt att gtg gt act tcc at gtg gac act act gat gt acc act gtg gac act act gat gt gt acc act agg gt gac gt acc act gtg gac act acc act gat gat acc acc acc acc acc acc acc acc acc a	315	735																5067
319	317	gga	caa	att	gat	gaa	att	att	gag	att	ttg	aaa	aaa	tcc	aac	gct	Con	3007
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322 Ser Ala Asn Asn Asn Asp Glu Leu Lys Lys Met Leu Glu Thr Lys Gln Leu 780  325 cct gct cat cac tct ttt ttg cta ttc aac tct aga tat tta aga ttg 326 pro Ala His His Ser Phe Leu Leu Phe Asn Ser Arg Tyr Phe Arg Leu 795  329 gat gga aat ttt gga tac gag gaa ttg gat caa att ata gag ttt gaa 321 gag at tct caa aga ttg Glu Leu Asp Gln Ile Ile Glu Phe Glu 331 800 805  333 gta tct caa aga ttg aac tta atc ccg gac atc atg gag gca tta ccg 334 Val Ser Gln Arg Leu Asn Leu Ile Pro Asp Ile Met Glu Ala Tyr Pro 335 815  337 gat gag ttt agg tcg aag aag gta agt gat ttt aat ctg gt ttt aat ctg 338 Asp Glu Phe Arg Ser Lys Val Ser Asp Phe Asn Leu Val Leu Ser 339 835 835 835 835 835 835 835 835 835 835	319					755											++-	5115
323       770       775       780       785       780       5163         326       Pro Ala His His Ser Phe Leu Leu Leu Phe Asn Ser Arg Tyr Phe Arg Leu 785       790       795	321	agt	gca	aat	aat	gat	gaa	ttg	aaa	aaa	atg	ctt	gag	act	aag	Caa	LLa	2112
325 cct gct cat cac tct ttt ttg cta ttc aac tct aga tat ttt aga ttg 326 Pro Ala His His Ser Phe Leu Leu Phe Asn Ser Arg Tyr Phe Arg Leu 327 785 790 790 795 329 gat gga aat ttt gga tac gag gaa ttg gat caa att ata gag ttt gaa 330 Asp Gly Asn Phe Gly Tyr Glu Glu Leu Asp Gln Ile Ile Glu Phe Glu 331 800 805 810 333 gta tct caa aga ttg aac tta atc ccg gac atc atg gag gca tat ccg 334 Val Ser Gln Arg Leu Asn Leu Ile Pro Asp Ile Met Glu Ala Tyr Pro 335 815 820 820 830 337 gat gag ttt agg tcg aag aag gat agg gat ttt aat ctg gtt ttg tct 338 Asp Glu Phe Arg Ser Lys Lys Val Ser Asp Phe Asn Leu Val Leu Ser 339 835 835 840 840 845 341 gga tta gac aat atg gac tgg ttt gat ttg gtg act tcc ata gtg acg 342 Gly Leu Asp Asn Met Asp Trp Phe Asp Leu Val Thr Ser Ile Val Thr 343 850 855 865 860 345 aaa tca ttc cat gtc gac gaa aaa agg ttt att gtt gat gtt gat gtt aac agg 346 Lys Ser Phe His Val Asp Glu Lys Arg Phe Ile Val Asp Val Asn Arg 347 865 870 349 ttt gat ttt agc tca ttg gat ttt ca aac tcg att gat gat gat gat gat gat gat gat ga	322	Ser	Ala	Asn		Asp	Glu	Leu	Lys	Lys	Met	Leu	GIU	Thr	туѕ	GTII	пеп	
326 Pro Ala His His Ser Phe Leu Leu Phe Asn Ser Arg Tyr Phe Arg Leu 785 790 795 795 795 795 795 795 796 Ala His His Ser Phe Leu Leu Phe Asn Ser Arg Tyr Phe Arg Leu 795 795 796 790 795 795 795 796 790 795 795 796 790 795 795 796 Ala His His Ser Phe Leu Leu Phe Asn Ser Arg Tyr Phe Arg Leu 795 795 798 796 790 795 796 790 795 796 796 790 795 796 796 796 796 796 796 796 796 796 796	323				770											. ~ .	++~	5163
327       785       790       795       795       521       328       329       gat gga aat ttt gga tac gag gaa ttg gat caa att ata gag ttt gaa att gag ttt gaal att gag ttt gal att gaal att gag ttt gal gal att gal gal ttt gal gal gal att gal gal gal att gal gal gal gal att gal	325	cct	gct	cat	cac	tct	ttt	ttg	cta	ttc	aac	tct	aga	tat	דננ	aga	LLG	2102
329 gat gga aat ttt gga tac gag gaa ttg gat caa att ata gag ttt gaa  330 Asp Gly Asn Phe Gly Tyr Glu Glu Leu Asp Gln Ile Ile Glu Phe Glu  331 800 805  333 gta tct caa aga ttg aac tta atc ccg gac atc atg gag gca tat ccg  334 Val Ser Gln Arg Leu Asn Leu Ile Pro Asp Ile Met Glu Ala Tyr Pro  335 815 820  337 gat gag ttt agg tcg aag aag gta agt gat ttt aat ctg gtt ttg tct  338 Asp Glu Phe Arg Ser Lys Lys Val Ser Asp Phe Asn Leu Val Leu Ser  339 835 835 840  341 gga tta gac aat atg gac tgg ttt gat ttg gtg act tcc ata gtg gac aca  342 Gly Leu Asp Asn Met Asp Trp Phe Asp Leu Val Thr Ser Ile Val Thr  343 850  345 aaa tca ttc cat gtc gac gaa aaa agg tta att gtg gat gtt aac agg  346 Lys Ser Phe His Val Asp Glu Lys Arg Phe Ile Val Asp Val Asn Arg  347 865 870  349 ttt gat ttt agc tca ttg gat ttt tca aac tcg att gat gta aca acg sty  354 Tyr Glu Glu Asn Ser Pro Val Asp Val Leu Ile Ile Leu Asn Pro Met  355 895 900 905  360  375 Gat gaa tat tct caa aaa ttg ata agc ctt gtt aat agc att aca gg  361 Thr Asp  362 S25  376 Sar Jle Glu Tyr Ser Gln Lys Leu Ile Ser Leu Val Asn Ser Ile Thr Asp  365 Sar Jle Val Asn Ser Jle Thr Asp  366 Sar Jle Val Asn Ser Jle Thr Asp  367 Sar Jle Val Asn Ser Jle Thr Asp  368 Asp Glu Tyr Ser Gln Lys Leu Ile Ser Leu Val Asn Ser Ile Thr Asp	326	Pro	Ala	His	His	Ser	Phe	Leu		Phe	Asn	Ser	Arg	Tyr	Pne	Arg	ьeu	
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331       800       805       810         333       gta tct caa aga ttg aac tta atc ccg gac atc atg gag gca tat ccg       5259         334       Val Ser Gln Arg Leu Asn Leu Ile Pro Asp Ile Met Glu Ala Tyr Pro       830         335       815       820       825         337       gat gag ttt agg tcg aag aag gta agt gtt tt aat ctg gtt ttg tct       5307         338       Asp Glu Phe Arg Ser Lys Lys Val Ser Asp Phe Asn Leu Val Leu Ser       845         341       gga tta gac aat atg gac tgg ttt gat ttg gt act tcc ata gtg aca       845         341       gga tta gac aat atg gac tgg ttt gat ttg gt act tcc ata gtg aca       855         342       Gly Leu Asp Asn Met Asp Trp Phe Asp Leu Val Thr Ser Ile Val Thr       860         345       aaa tca ttc cat gtc gac gaa aaa aagg ttt att gt gt gt gt act ser Ile Val Thr       860         345       aaa tca tta gt gac gaa aaa aagg ttt att gt gt gt gt act gt gat gt aac aca       870         346       Lys Ser Phe His Val Asp Glu Lys Arg Phe Ile Val Asp Val Asn Arg       870         347       865       870         349       ttt gat ttt agc tca ttg gat ttt tca aac tcg att gat gt gat ga	329	gat	gga	aat	ttt	gga	tac	gag	gaa	ttg	gat	caa	att	ata	gag	Dha	Glu	J211
333 gta tct caa aga ttg aac tta atc ccg gac atc atg gag gca tat ccg 334 Val Ser Gln Arg Leu Asn Leu Ile Pro Asp Ile Met Glu Ala Tyr Pro 335 815	330	Asp	Gly	Asn	Phe	Gly	Tyr		Glu	Leu	Asp	GIn	116	TTE	GIU	PHE	GIU	
334 Val Ser Gln Arg Leu Asn Leu Ile Pro Asp Ile Met Glu Ala Tyr Pro 335 815 820 825 830  337 gat gag ttt agg tcg aag aag gta agt gat ttt aat ctg gtt ttg tct 338 Asp Glu Phe Arg Ser Lys Lys Val Ser Asp Phe Asn Leu Val Leu Ser 339 835 835 840 845  341 gga tta gac aat atg gac tgg ttt gat ttg gtg act tcc ata gtg aca 342 Gly Leu Asp Asn Met Asp Trp Phe Asp Leu Val Thr Ser Ile Val Thr 343 850 855 860  345 aaa tca ttc cat gtc gac gaa aaa agg ttt att gtt gat gtt aac agg 346 Lys Ser Phe His Val Asp Glu Lys Arg Phe Ile Val Asp Val Asn Arg 347 865 870 875  349 ttt gat ttt agc tca ttg gat ttt tca aac tcg att gat gta acg act 350 Phe Asp Phe Ser Ser Leu Asp Phe Ser Asn Ser Ile Asp Val Thr Thr 351 880 885  353 tat gaa gaa aat agt cca gtt gat gta tta ata att ttg aac cct atg 354 Tyr Glu Glu Asn Ser Pro Val Asp Val Leu Ile Ile Leu Asn Pro Met 355 895 900 900  357 gat gaa tat tct caa aaa ttg ata agc ctt gtt aat agc att aca gat 358 Asp Glu Tyr Ser Gln Lys Leu Ile Ser Leu Val Asn Ser Ile Thr Asp 358 Asp Glu Tyr Ser Gln Lys Leu Ile Ser Leu Val Asn Ser Ile Thr Asp	331		800									-4-		~~~	~~~	+ > +	aca	5250
335       815       820       825       830         337       gat gag ttt agg tcg aag aag gta agt gat ttt aat ctg gtt ttg tct       5307         338       Asp Glu Phe Arg Ser Lys Lys Val Ser Asp 840       Responsible of the Arg Ser Asp 845       Responsible of the Arg Ser Asp 840       Responsible of the Arg Ser Asp 840       Responsible of the Arg Ser Asp 845       Responsible of the Arg Ser Asp 840       Responsible of transport of the Arg Ser Asp 840       Responsible of transport of transp	333	gta	tct	caa	aga	ttg	aac	tta -	atc	ccg	gac	atc	acg	gag	yca 111	TTT T	Bro	3233
337 gat gag ttt agg tcg aag aag gta agt gat ttt aat ctg gtt ttg tct 338 Asp Glu Phe Arg Ser Lys Lys Val Ser Asp Ref			Ser	Gln	Arg	Leu		Leu	He	Pro	Asp	TTE	мес	GIU	Ата	TÄT	830	
338       Asp Glu Phe Arg Ser Lys Lys Val Ser Asp Phe Asn Leu Val Leu Ser 339       835       840       845       845         341       gga tta gac aat atg gac tgg ttt gat ttg gtg act tcc ata gtg aca 342 Gly Leu Asp Asn Met Asp Trp Phe Asp Leu Val Thr Ser Ile Val Thr 343       850       855       860       860         345       aaa tca ttc cat gtc gac gaa aaa agg ttt att gt gat gt aac agg 346 Lys Ser Phe His Val Asp Glu Lys Arg Phe Ile Val Asp Val Asn Arg 865       870       875       875         349       ttt gat ttt agc tca ttg gat ttt tca aac tcg att gat gta acg act 35451       885       875       875         349       ttt gat ttt agc tca ttg gat ttt tca aac tcg att gat gta tta att ttg aac cct atg 35451       885       890       890         353       tat gaa gaa aat agt cca gtt gat gta tta ata att ttg aac cct atg 35499       890       890       905       910         357       gat gaa tat tct caa aaa ttg ata agc ctt gt aat agc ctt gt aat acg att aca agc att aca agc 3547       547       547         358       Asp Glu Tyr Ser Gln Lys Leu Ile Ser Leu Val Asp Ser Ile Thr Asp       547	335	815											<del>+</del>	a+ a	a++	++~		5307
339       835       840       845         341 gga tta gac aat atg gac tgg ttt gat ttg gtg act tcc ata gtg aca       5355         342 Gly Leu Asp Asn Met Asp Trp Phe Asp Leu Val Thr Ser Ile Val Thr 860       860         345 aaa tca ttc cat gtc gac gaa aaa agg ttt att gt gat gt aac agg 346 Lys Ser Phe His Val Asp Glu Lys Arg Phe Ile Val Asp Val Asn Arg 865       870         347 865       870       875         349 ttt gat ttt agc tca ttg gat ttt tca aac tcg att gat gta acg act 35451         350 Phe Asp Phe Ser Ser Leu Asp Phe Ser Asn Ser Ile Asp Val Thr Thr 880       885         353 tat gaa gaa aat agt cca gtt gat gta tta ata att ttg aac cct atg 35491         354 Tyr Glu Glu Asn Ser Pro Val Asp Val Leu Ile Ile Leu Asn Pro Met 355       900         357 gat gaa tat tct caa aaa ttg ata agc ctt gtt aat agc att aca gat 3547         358 Asp Glu Tyr Ser Gln Lys Leu Ile Ser Leu Val Asn Ser Ile Thr Asp 325	337	gat	gag	ttt	agg	tcg	aag -	aag	gta	agt	gat	Dha	aat	Lou	Val	LLG	Sor	5507
341 gga tta gac aat atg gac tgg ttt gat ttg gtg act tcc ata gtg aca 342 Gly Leu Asp Asn Met Asp Trp Phe Asp Leu Val Thr Ser Ile Val Thr 343		Asp	Glu	Phe	Arg		ьys	ьys	vaı	ser	ASP	Phe	ASII	пец	Val	8/5	ber	
341 gga tta gac aat atg gac tegg tte gac teg gac tegg tte gac teg gac at atg gac at atg gac atg	339											~+~	20+	+00	a t a		aca	5355
343       850       855       860         345       aaa tca ttc cat gtc gac gaa aaa agg ttt att gtt gat gtt aac agg 5403         346       Lys Ser Phe His Val Asp Glu Lys Arg Phe Ile Val Asp Val Asn Arg 865       870       875         349       ttt gat ttt agc tca ttg gat ttt tca aac tcg att gat gta acg act 35451       880       885       885         350       Phe Asp Phe Ser Ser Leu Asp Phe Ser Asn Ser Ile Asp Val Thr Thr 880       885       890         353       tat gaa gaa aat agt cca gtt gat gta tta ata att ttg aac cct atg 35499         354       Tyr Glu Glu Asn Ser Pro Val Asp Val Leu Ile Ile Leu Asn Pro Met 355       900       905       910         357       gat gaa tat tct caa aaa ttg ata agc ctt gtt aat agc att aca gat 5547       3547       358       Asp Glu Tyr Ser Gln Lys Leu Ile Ser Leu Val Asn Ser Ile Thr Asp 354       3547	341	gga	tta	gac	aat	atg	gac	Egg	בננ	gal	LLY	9 L 9	Thr	cor	Tla	Val	Thr	3333
345 aaa tca ttc cat gtc gac gaa aaa agg ttt att gtt gat gtt aac agg 5403 346 Lys Ser Phe His Val Asp Glu Lys Arg Phe Ile Val Asp Val Asn Arg 347 865 870 875 349 ttt gat ttt agc tca ttg gat ttt tca aac tcg att gat gta acg act 5451 350 Phe Asp Phe Ser Ser Leu Asp Phe Ser Asn Ser Ile Asp Val Thr Thr 351 880 885 890 353 tat gaa gaa aat agt cca gtt gat gta tta ata att ttg aac cct atg 5499 354 Tyr Glu Glu Asn Ser Pro Val Asp Val Leu Ile Ile Leu Asn Pro Met 355 895 900 905 910 357 gat gaa tat tct caa aaa ttg ata agc ctt gtt aat agc att aca gat 5547 358 Asp Glu Tyr Ser Gln Lys Leu Ile Ser Leu Val Asn Ser Ile Thr Asp		Gly	Leu	Asp		Met	Asp	Trp	Pne	ASP	Leu	vaı	T 111	261	860	VUI	1111	
346 Lys Ser Phe His Val Asp Glu Lys Arg Phe Ile Val Asp Val Asn Arg 347 865 870 875  349 ttt gat ttt agc tca ttg gat ttt tca aac tcg att gat gta acg act 350 Phe Asp Phe Ser Ser Leu Asp Phe Ser Asn Ser Ile Asp Val Thr Thr 351 880 885 890  353 tat gaa gaa aat agt cca gtt gat gta tta ata att ttg aac cct atg 354 Tyr Glu Glu Asn Ser Pro Val Asp Val Leu Ile Ile Leu Asn Pro Met 355 895 900 905 910  357 gat gaa tat tct caa aaa ttg ata agc ctt gtt aat agc att aca gat 3547  358 Asp Glu Tyr Ser Gln Lys Leu Ile Ser Leu Val Asn Ser Ile Thr Asp	343										+++	2++	a++	aat		aac	agg	5403
347       865       870       875         349 ttt gat ttt agc tca ttg gat ttt tca aac tcg att gat gta acg act 3451         350 Phe Asp Phe Ser Ser Leu Asp Phe Ser Asn Ser Ile Asp Val Thr Thr         351 880       885       890         353 tat gaa gaa aat agt cca gtt gat gta tta ata att ttg aac cct atg 354 Tyr Glu Glu Asn Ser Pro Val Asp Val Leu Ile Ile Leu Asn Pro Met 355 895       900       905         357 gat gaa tat tct caa aaa ttg ata agc ctt gtt aat agc att aca gat 354 Asp Glu Tyr Ser Gln Lys Leu Ile Ser Leu Val Asn Ser Ile Thr Asp 364       5547	345	aaa	tca	ttc	cat	gtc	gac	gaa	aaa	ayy	Dha	T10	y c c	7 cn	Val	Δen	Δra	3.00
349 ttt gat ttt agc tca ttg gat ttt tca aac tcg att gat gta acg act 350 Phe Asp Phe Ser Ser Leu Asp Phe Ser Asn Ser Ile Asp Val Thr Thr 351 880 885 890 353 tat gaa gaa aat agt cca gtt gat gta tta ata att ttg aac cct atg 354 Tyr Glu Glu Asn Ser Pro Val Asp Val Leu Ile Ile Leu Asn Pro Met 355 895 900 905 910 357 gat gaa tat tct caa aaa ttg ata agc ctt gtt aat agc att aca gat 3547 358 Asp Glu Tyr Ser Gln Lys Leu Ile Ser Leu Val Asn Ser Ile Thr Asp		Lys	Ser		Hls	vaı	Asp	GIU	Lys	ALG	Pile	116	vaı	875	Val	11011	**** 9	
350 Phe Asp Phe Ser Ser Leu Asp Phe Ser Asn Ser Ile Asp Val Thr Thr 351 880 885 890 353 tat gaa gaa aat agt cca gtt gat gta tta ata att ttg aac cct atg 5499 354 Tyr Glu Glu Asn Ser Pro Val Asp Val Leu Ile Ile Leu Asn Pro Met 355 895 900 905 910 357 gat gaa tat tct caa aaa ttg ata agc ctt gtt aat agc att aca gat 5547 358 Asp Glu Tyr Ser Gln Lys Leu Ile Ser Leu Val Asn Ser Ile Thr Asp	347			865												асп	act	5451
351 880 885 890  353 tat gaa gaa aat agt cca gtt gat gta tta ata att ttg aac cct atg 5499  354 Tyr Glu Glu Asn Ser Pro Val Asp Val Leu Ile Ile Leu Asn Pro Met  355 895 900 905 910  357 gat gaa tat tct caa aaa ttg ata agc ctt gtt aat agc att aca gat 5547  358 Asp Glu Tyr Ser Gln Lys Leu Ile Ser Leu Val Asn Ser Ile Thr Asp	349	ttt	gat	ttt	agc	tca	ttg	gat	Dho	Com	Agn	Cor	T10	A en	Val	Thr	Thr	• • • •
353 tat gaa gaa aat agt cca gtt gat gta tta ata att ttg aac cct atg 354 Tyr Glu Glu Asn Ser Pro Val Asp Val Leu Ile Ile Leu Asn Pro Met 355 895 900 905 910 357 gat gaa tat tct caa aaa ttg ata agc ctt gtt aat agc att aca gat 358 Asp Glu Tyr Ser Gln Lys Leu Ile Ser Leu Val Asn Ser Ile Thr Asp					ser	ser	Leu	ASP	PHE	ser	ASII	Ser	800	ASP	vai	1111	1111	
354 Tyr Glu Glu Asn Ser Pro Val Asp Val Leu Ile Ile Leu Asn Pro Met 355 895 900 905 910 357 gat gaa tat tct caa aaa ttg ata agc ctt gtt aat agc att aca gat 5547 358 Asp Glu Tyr Ser Gln Lys Leu Ile Ser Leu Val Asn Ser Ile Thr Asp	351		880			4-				a+ 5	++>	2+2		ttα	aac	cct	atσ	5499
355 895 900 905 910  357 gat gaa tat tct caa aaa ttg ata agc ctt gtt aat agc att aca gat 5547  358 Asp Glu Tyr Ser Gln Lys Leu Ile Ser Leu Val Asn Ser Ile Thr Asp	353	tat	gaa	gaa	aat	agt	CCa	gtt	yac na-	yıa	Ton	ala Tla	Tla	T.DII	Agn	Pro	Met	
355 895 357 gat gaa tat tot caa aaa ttg ata ago ott gtt aat ago att aca gat 5547 358 Asp Glu Tyr Ser Gln Lys Leu Ile Ser Leu Val Asn Ser Ile Thr Asp				Glu	Asn	ser		val	ASP	va T	ьeu	116	116	Lea	11011	110	910	
358 Asp Glu Tyr Ser Gln Lys Leu Ile Ser Leu Val Asn Ser Ile Thr Asp	355	895				_					~++			200	at+	aca		5547
	357	gat	gaa	tat	tct	caa	aaa	ttg	ala Tla	ayc	TOU	yı.∟ 17∍1	. aat	Sar	Tlo	Thr	Asn	JJ . /
359 915 920 323			Glu	Tyr	ser			ьeu	тте	ser	กรณ	val	ווכח	DET		925		
	359					915					<i>32</i> 0					, 2, 3		

Use of n and/or Xaa has been detected in the Sequence Listing.

Review the Sequence Listing to insure a corresponding explanation is presented in the <220> to <223> fields of each sequence using n or Xaa.

VERIFICATION SUMMARY

PATENT APPLICATION: US/10/018,105

DATE: 01/09/2002 TIME: 13:56:28

Input Set : A:\10182015999.txt

Output Set: N:\CRF3\01082002\J018105.raw

L:14 M:270 C: Current Application Number differs, Replaced Application Number

L:15 M:271 C: Current Filing Date differs, Replaced Current Filing Date

L:812 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 L:1060 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3

L:1264 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5

 $L\!:\!1268$  M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5

L:1282 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5

L:1567 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5